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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,081	08/19/2003	Hirokazu Uejima	Q76996	3059

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EXAMINER

CHUO, TONY SHENG HSIANG

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/643,081		UEJIMA ET AL.	
	Examiner		Art Unit	
	Tony Chuo		1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/19/03, 3/5/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the passive state layer is superior in conductivity and corrosion resistance to.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Fronk et al (EP 1107340). The Fronk reference teaches a separator comprising a metal substrate "60" with either a conductive polymer coating "94" formed on the surface of the substrate or a passive layer "96" formed on the surface of the substrate and a conductive polymer coating formed "94" on the passive layer (See Figure 4 and 5). In addition, the conductive polymer coatings are not subjected to baking.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5-6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fronk et al (EP 1107340) in view of Mitsui et al (EP 1100097). The Fronk reference teaches forming either a conductive polymer coating on a substrate or a passive layer on a substrate and then a conductive polymer coating on the passive layer. However, the reference does not expressly teach a conductive polymer coating that is formed by electrolytic polymerization. The Mitsui reference does teach forming a conductive polymer layer on a substrate by electrolytic polymerization using the substrate as an electrolytic polymerization electrode (See paragraph [0011]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Fronk method of making a separator to form the conductive polymer layer by electrolytic polymerization because it is well known in the art that electrolytic polymerization forms a thick and durable polymer coating.

6. Claims 7-8 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fronk et al (EP 1107340) in view of Mitsui et al (EP 1100097) and in further view of Suenaga et al (US 2002-0102453). The Fronk reference in view of the Mitsui reference teaches forming either a conductive polymer coating on a substrate or a passive layer on a substrate and then a conductive polymer coating on the passive layer by electrolytic polymerization where the substrate is used as the electrolytic polymerization electrode. However, the reference does not expressly teach forming groove like gas flow passages by bending a metal substrate. The Suenaga reference

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does teach forming groove-like gas flow passages by bending a metal substrate (See paragraph Figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Fronk method of making a separator to include a step of forming groove like gas flow passages by bending the metal substrate so that an easier and simpler method of forming gas flow passages can be utilized.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Yasuo et al (US 2002-0187379) reference teaches a separator and a method of making a separator by forming a passive layer on a substrate and then forming a conductive layer on the passive layer. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Chuo whose telephone number is (571) 272-0717. The examiner can normally be reached on M-F, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

u 4/10/06

A handwritten signature in black ink, appearing to read 'Michael Barr', with a stylized, sweeping flourish extending from the end of the signature.

MICHAEL BARR
SUPERVISORY PATENT EXAMINER